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## Vision-related Quality of Life and Locus of Control in Type 1 Diabetes. A Multicentre Observational Study.

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**Introduction.** Vision plays an important role in the ability of people to process information from their environment and to participate in everyday activities. Diabetic Retinopathy (DR) is considered to remain asymptomatic until it reaches its late stages. However, subtle changes in vision related quality of life (QoL) may occur even in mild DR and their perception may be related to a patient's locus of control (LoC) of his/her disease.

**Objective.** To evaluate vision-related QoL and LoC in patients with Type 1 Diabetes and different stages of DR.

**Patients and methods.** The 25-item National Eye Institute Visual Functioning (NEI VFQ-25) and Locus of Control (LoC) questionnaires were self-administered to 258 patients between January 2014 and March 2017 in 9 DR screening centres. The NEI VFQ-25 explores 12 dimensions: General Health (GH), General Vision (GV), Ocular Pain (OP), Near Activities (NA), Distance Activities (DA), Visual Specific Social Functioning (VSSF), Mental Health (VSMH), Role Difficulties (VSRD), Dependency (VSD), Driving (D), Colour Vision (CV) and Peripheral Vision (PV). The LoC questionnaire includes 18 items assessing 3 areas: Internal Control of disease, the role of Chance and trust in Others (family members, health operators). Data on socio-anagraphic variables and presence of DR, cataract and previous laser treatment (LT) were collected.

**Results.** Patients included 124 women and 134 men aged 42.0±12.4 years and with 28.0±12.4 disease duration. DR was absent (n=74), mild-moderate (n=75), severe (n=96) and laser treated (n=13). DR severity was directly associated with disease duration (p<0.001) and measuring blood glucose less than 4 times a day (p=0.013). Smoking showed a trend to protect from DR. The patients with no DR had better scores for GH (p=0.0008), GV (p=0.0007), CV (p=0.045) and PV (p=0.0001) than those with mild and more severe DR. There were no differences in any of the LoC areas.

**Conclusions.** Even in mild asymptomatic stages, DR is associated with impaired perception of vision related quality of life, with specific reference to general health, general vision, colour vision and peripheral vision, independently of personality traits explored by the LoC tool. The possible protective effect of smoking confirms previous reports and requires further investigation.